



TESTIMONY OF TIM LUST

CHIEF EXECUTIVE OFFICER
NATIONAL SORGHUM PRODUCERS

BEFORE THE
COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY
U.S. HOUSE OF REPRESENTATIVES

TUESDAY, MARCH 12, 2024

HEARING ON “BRIDGING THE VALLEY OF DEATH: ARPA-E’S ROLE IN DEVELOPING BREAKTHROUGH TECHNOLOGIES

Good morning Chairman Lucas and Ranking Member Lofgren and Members of the Committee. Thank you for the opportunity to address you today and to highlight ARPA-E. My name is Tim Lust and I have served as the CEO of the National Sorghum Producers (NSP), representing the sorghum industry and 50,000 growers for the last 25 years.

You may be wondering why someone from an ag trade association is in front of this committee. Eleven years ago ARPA-E leadership called me and I asked the same question. DOE focused on sorghum as an energy crop because it quickly produces a large amount of biomass with limited water and fertilizer. Sorghum is an ideal crop for research because of its commercial relevance, genetic characteristics that promote fast insight, and its close relationship to other crops, particularly corn.

My relationship with the DOE expanded significantly when ARPA-E sought our advice to meet their translational mission to do research with real world outcomes. As an industry lead, I have worked closely with ARPA-E and believe it has been very successful in accelerating the development of cutting edge technologies to meet the energy needs of our country.

ARPA-E’s approach to bridging the gap between science and commercial impact is distinct from other federal agencies. ARPA-E’s management approach holds scientists accountable to defined milestones and then either commercializes results or moves on. This “Big Swing, Fail fast” attitude resonates with my members. We have been so impressed with APRA-E’s approach that we directly invested over \$500,000 farmer dollars in several TERRA projects.

Often, government research is focused on basic science for the purpose of research publications. This work is the foundation of further research, and I would like to highlight that industries like agriculture require further federal investment to translate new discoveries into commercial outcomes. Due to successful research in ARPA-E, I can point to five startups, a new seed company and new market access to low carbon fuel markets. This is in addition to significant federal and philanthropic follow-on dollars that further extend the impact of the ARPA-E dollars.

Biofuels are a critical market for sorghum and other grains. ARPA-E worked hard to understand our market, and the agency launched the SMARTFarm program focused on accelerating farmer data inclusion into lifecycle assessment models used in fuel markets. SMARTFarm moved research from 20-foot plots to fields to test best-in-class data technologies.

As you are aware, the USDA recently launched the Partnership for Climate Smart Commodities Program (PCSC) where NSP is participating in a \$65M grant, \$50M of which goes directly to growers, centered on the GREET model. The programs at ARPA-E and the resulting technological developments have paved a path for growers to access this market in a new manner.

I will close by mentioning a truly bleeding-edge program, ROOTS, launched in 2017. ROOTS sought to do something impossible - to see through soils and image plant roots. ARPA-E staff searched across medical, defense, and other sectors to identify potential technologies. I can think of no industry group or other government agency that would undertake this challenge in a focused manner.

Though ROOTS has resulted in fewer commercial outcomes than other ARPA-E programs, its projects persist and I believe commercial adoption is only a matter of time. Novel business models developed for Climate Smart Commodities and growing international markets focused on sustainability will motivate the development of technologies that rely on the ROOTS tools. At that time, we will be glad ARPA-E's transformative research 10 years earlier prepared the tools for a new wave of innovation.

In conclusion, we believe more research should be conducted with translation in mind. Model crops like sorghum and agronomic studies focused on our crop have tangible commercial relevance, and the potential broadly improves row crop agriculture. We remain strong advocates of the ARPA-E program. The ARPA framework and time limited staffing by talented, visionary leaders creates the energy needed to develop the next set of successful (and occasionally failing) cutting edge projects.

Thank you again for the opportunity to share our views on this important topic. I look forward to questions.

Tim Lust

CEO, National Sorghum Producers

Tim Lust is the CEO of the National Sorghum Producers and the Sorghum Checkoff, two organizations dedicated to increasing profitability for more than 30,000 sorghum growers nationwide. He has been with NSP for 30 years, serving as the director of marketing for five years and as CEO for 25 years. Tim grew up on a diversified cattle and farming operation in Texas where he still remains actively involved. He received a B.S. in Animal Science from Angelo State University and an MBA from Texas Tech University. Tim has been actively involved in regulatory work over the past 25 years, defending and protecting products for growers while working with multiple trade groups. He is a past member of the USDA Agricultural Trade Advisory Committee (ATAC) and a former board member for the USDA Sorghum Crop Germplasm Committee. Today, Tim serves on numerous industry and regional committees and advisory councils.

TIM LUST

Home

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Abernathy, Texas 79311

Work

4201 N Interstate 27
Lubbock, Texas 79403
806-749-3478
tim@sorghumgrowers.com

WORK EXPERIENCE

CEO

1998-Present

National Sorghum Producers, Lubbock, Texas

Chief Executive Officer who manages staff and budget for the only national sorghum political and policy advocacy organization and is the main contact with sorghum industry representatives worldwide.

Accomplishments:

Led sorghum industry efforts to successfully equalize sorghum loan rates in 2002 Farm Security and Rural Investment Act, bringing an estimated additional \$156 million annually to U.S. sorghum producers.

Organized grain sorghum producers and industry stakeholders to form the United Sorghum Checkoff Program, the first national sorghum checkoff.

Led industry efforts to secure approximately \$10 million in annual sorghum research appropriations and other funding between 1999-2018.

Assisted in developing the farm bill's Energy Title and led industry efforts to secure almost \$100 million in funding for grain sorghum ethanol producers and the grain sorghum producers supplying them.

Led 2014 Farm Bill advocacy efforts that resulted in a grain sorghum reference price of \$3.95, bringing more than \$500 million to grain sorghum producers just three years after the program's inception.

Led industry efforts in response to China's 2018 anti-dumping and countervailing duty investigations into imports of U.S. grain sorghum, laying foundation for ultimate political resolution of the investigations.

Initiated industry efforts to implement changes to the sorghum crop insurance price election formula to be more reflective of sorghum pricing, adding \$89 million in value to sorghum farmers.

Lead creation of multiple for profit subsidiaries of NSP that help NSP members and the sorghum industry.

CEO
2008-Present

United Sorghum Checkoff Program, Lubbock, Texas

Chief Executive Officer who manages staff and budget for the only national sorghum checkoff program responsible for research, marketing and promotion funded by sorghum producers.

Accomplishments:

Oversaw total research, marketing and promotion expenditures of more than \$65 million between 2008-2018.

Executed first ever formal sorghum industry investments into sorghum genetic research and development.

Built checkoff staff and organizational infrastructure from the ground, hiring 15 employees and establishing priorities and program areas to implement annual \$6-\$15 million budget.

**Director of
Marketing &
Research**
1993-1998

National Grain Sorghum Producers, Abernathy, Texas

Accomplishments:

Initiated marketing research study of the sorghum industry to document railroad logistical inefficiencies, customer needs and customer usage trends.

Initiated new programs to overcome sorghum transportation and customer problems.

Initiated proactive ergot management strategy for the U.S. sorghum industry, lobbied EPA for emergency chemical control for the seed industry, leveraged funds for the U.S. Ergot Conference, and secured approximately \$1,000,000 in 1997 and 1998 in ergot research dollars to help find resistance to the disease.

Initiated and led strategic planning for the sorghum commodity organizations, documented the three driving forces of the sorghum industry and initiated programs to stop the loss of critical mass in the sorghum industry.

Owner
1986-Present

Lust Family Angus Farms, Abernathy, Texas

Diversified farming, cattle feeding, and seedstock Angus cattle operation.

LEADERSHIP

Advisory Board Member, JBEI- DOE Bioenergy Research Center
Board Member, USDA–Agriculture Technical Advisory Committee
Board Member, Texas Tech Center for Industry Research and Education
Past Board Member, USDA - Sorghum Crop Germplasm Committee
Past Board Member, Sorghum Improvement Council of North America

EDUCATION

1992-1993 **Master of Business Administration**, December 1993
Texas Tech University, Lubbock, Texas

1988-1992 **B.S. Animal Science**, August 1992
Angelo State University, San Angelo, Texas

Truth in Testimony Disclosure Form

In accordance with Rule XI, clause 2(g)(5)* of the *Rules of the House of Representatives*, witnesses are asked to disclose the following information. Please complete this form electronically by filling in the provided blanks.

Committee: _____

Subcommittee: _____

Hearing Date: _____

Hearing :

Witness Name: _____

Position/Title: _____

Witness Type: Governmental Non-governmental

Are you representing yourself or an organization? Self Organization

If you are representing an organization, please list what entity or entities you are representing:

National Sorghum Producers

FOR WITNESSES APPEARING IN A NON-GOVERNMENTAL CAPACITY

Please complete the following fields. If necessary, attach additional sheet(s) to provide more information.

Are you a fiduciary—including, but not limited to, a director, officer, advisor, or resident agent—of any organization or entity that has an interest in the subject matter of the hearing? If so, please list the name of the organization(s) or entities.

No

Please list any federal grants or contracts (including subgrants or subcontracts) related to the hearing's subject matter that you or the organization(s) you represent have received in the past thirty-six months from the date of the hearing. Include the source and amount of each grant or contract.

- "Community and Market Perspectives to Leverage the Creation and Application of a Technology Platform, KansCAT, for Conservation of Soil and Water Systems in Kansas."

NRCS

\$184,352

- "Partnerships for Climate-Smart Commodities Project"

USDA

\$65,000,000

Please list any contracts, grants, or payments originating with a foreign government and related to the hearing's subject that you or the organization(s) you represent have received in the past thirty-six months from the date of the hearing. Include the amount and country of origin of each contract or payment.

No

Please complete the following fields. If necessary, attach additional sheet(s) to provide more information.

- I have attached a written statement of proposed testimony.
- I have attached my curriculum vitae or biography.

* Rule XI, clause 2(g)(5), of the U.S. House of Representatives provides:

(5)(A) Each committee shall, to the greatest extent practicable, require witnesses who appear before it to submit in advance written statements of proposed testimony and to limit their initial presentations to the committee to brief summaries thereof.

(B) In the case of a witness appearing in a non-governmental capacity, a written statement of proposed testimony shall include— (i) a curriculum vitae; (ii) a disclosure of any Federal grants or contracts, or contracts, grants, or payments originating with a foreign government, received during the past 36 months by the witness or by an entity represented by the witness and related to the subject matter of the hearing; and (iii) a disclosure of whether the witness is a fiduciary (including, but not limited to, a director, officer, advisor, or resident agent) of any organization or entity that has an interest in the subject matter of the hearing.

(C) The disclosure referred to in subdivision (B)(ii) shall include— (i) the amount and source of each Federal grant (or subgrant thereof) or contract (or subcontract thereof) related to the subject matter of the hearing; and (ii) the amount and country of origin of any payment or contract related to the subject matter of the hearing originating with a foreign government.

(D) Such statements, with appropriate redactions to protect the privacy or security of the witness, shall be made publicly available in electronic form 24 hours before the witness appears to the extent practicable, but not later than one day after the witness appears.

False Statements Certification

Knowingly providing material false information to this committee/subcommittee, or knowingly concealing material information from this committee/subcommittee, is a crime (18 U.S.C. § 1001). This form will be made part of the hearing record.

Tim Lust

03/06/2024

Witness signature

Date

Committee on Science Space and Technology
2318 Rayburn House Office Building
Hearing Room Technological Capabilities

I. Equipment Capabilities

- a. DISPLAY - The hearing room is equipped with multiple monitors capable of displaying computer graphics and video feeds. The Committee recommends that material to be displayed be created on a computer set for a video resolution of **1920 x 1080** pixels (**1080p**) in order to best match the resolution of the screens.
- b. REAR VIDEO MONITOR – the rear of the hearing room is equipped with a large screen viewable from the dais and side seats.
- c. WALL-MOUNTED MONITORS – The hearing room is equipped with two monitors, one on each side of the room, for audience viewing.
- d. WITNESS MONITOR – A monitor will also be placed in front of the witness table so witnesses can see the screen as they present.

II. Computer-Based Presentation

Please bring your presentation on your personal laptop to the hearing room at least one half-hour prior to the time in which the hearing is set to begin so that we may help you set it up on a witness table. Your laptop should be equipped with a functioning graphics port with either an HDMI, VGA, or MAC external connector. Because there are many makes and models of laptops, please be prepared to operate the external graphics port for the laptop you choose to bring.

III. Audiovisual/Multimedia Capabilities

- a. The room supports the following transmission methods to broadcast committee activities to remote sites:
 - Telephone Conferencing (Audio Only)
 - Live Audio-Video Streaming (Webcasting)
 - Video Teleconferencing
 - Video and Audio Overflow Transmission to Room 2325
- b. The room receives House Cable TV feeds for display.
- c. The hearing room equipment can play back and display compact disks, DVD disks, and slideshows.

IV. Equipment Support

Questions should be emailed to Cody Elkins, Policy Assistant – Energy, at cody.elkins@mail.house.gov.